

# FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

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## O&M in UESC

Hosted by:



# O&M Cost Savings

Definition of O&M Savings = one-time or annual non-labor decrease in O&M expenditures that are verifiable and supported by actual purchase records.

{Adjusted Baseline O&M Costs} *minus* {Actual O&M Costs}

- Appropriate for elimination of a maintenance contract or reduction in government staff
- Baseline O&M and R&R should be based on actual budgets and expenditures

Reference: “How to Determine and Verify O&M Savings in Federal Energy Savings Performance Contracts”, November 2007

# O&M Cost Savings

$$\Delta(\text{O\&M Costs}) = (\text{Baseline O\&M Costs})_t - (\text{Actual O\&M Costs})_{t+n}$$

- Where,
  - $t$  = baseline year
  - $t+n$  = year when actual savings occurs
- Examples:
  - avoided use of current or planned capital funds for equipment repair or replacement;
  - transfer of O&M and R&R responsibility;
  - and avoided renovation, repair, or renewal costs resulting from the project.
- O&M savings may vary year to year which must be addressed in the annual savings and cost streams and in the financing arrangement and Task Order (TO) payment schedule.
- Escrow accounts have been used to reduce repair and replacement risk to agency and utility.

# O&M Savings – *What Does the Code of Federal Regulations (CFR) Require?*

- **10 CFR § 436.31** - Energy cost savings means a reduction in the cost of energy and ***related operation and maintenance expenses***
- Energy-related cost savings can result from ***avoided expenditures for operations and maintenance***. Sources of energy-related savings include:
  - avoided current or planned capital expense
  - transfer of responsibility due to the UESC for O&M and R&R to the Utility
  - avoided renovation, renewal, or repair costs as a result of replacing old and unreliable equipment
- Documenting and verifying O&M or other energy-related savings will help ensure persistence of the savings for the contract term, avoid conflicts, and address oversight agency concerns.

# O&M Savings in UESC

*Conclusion: O&M and other energy-related cost savings are allowable in UESCs*

***BOTTOM LINE: O&M Savings are Allowed and Must Be “Real & Verifiable”***

# O&M Savings in UESC

- Savings due to redirected labor or O&M efforts that do not reduce real expenses ***cannot*** be claimed as savings
- Agencies must maintain O&M records that will be needed to document baseline O&M costs
- Utilities must include detailed information in M&V reports to clearly convey the source of O&M savings as well as sufficient data to verify any savings calculations performed.

# Top 5 Reasons for Including O&M in Your UESC

1. It is allowable
2. Low cost energy management
3. Assures equipment is working properly
4. Avoid potential problems
5. Ensures “Persistence (and maximization) of Savings” - *Energy and Dollars*

*Again, the Bottom Line: O&M Savings Must Be Real and Verifiable*

ECM Description		Main Campus Electric Savings (MWh/Yr)	Building 1 Electric Savings (MWh/Yr)	Building 2 Area Electric Savings (MWh/Yr)	Electric Energy Savings (MMBtu/Yr)	Natural Gas Savings (MMBtu/Yr)	Total Energy Savings (MMBtu/Yr)	Water Savings (kGal/Yr)	Sewage Savings (kGal/Yr)	O&M Cost Savings (\$/Year)	Purchased Utility Cost Savings (\$/Year)	Total Cost Savings (\$/Year) I + II	Construct. Cost (1) (\$)	Super Simple Payback (Years) IV ÷ (I+II)
ECM - 1	High Efficiency Lighting Retrofits	139.215	187.855	112.069	1,498.8	0	1,498.8	0.0	0.0	\$8,233	\$41,164	\$49,396	\$387,605	7.8
ECM - 2	Water Fixture Upgrades	58.617	2.638	2.638	218.1	0	218.1	415.0	415.0	\$0	\$4,603	\$4,603	\$58,638	12.7
ECM - 3	AHU UV Lights	52.302	36.797	0.000	304.1	0	304.1	0.0	0.0	\$0	\$7,175	\$7,175	\$45,812	6.4
ECM - 4	Controls Upgrades / VFD's / Retrocommissioning	1,003.516	432.907	5.669	4,921.9	0	4,921.9	0.0	0.0	\$2,000	\$109,288	\$111,288	\$622,587	5.6
ECM - 5	HVAC Equipment Replacements	623.494	189.540	0.000	2,774.9	702	3,476.7	0.0	0.0	\$32,985	\$63,080	\$96,065	\$716,762	7.5
ECM - 6	Motor Replacements	23.175	0.000	0.000	79.1	0	79.1	0.0	0.0	\$0	\$1,448	\$1,448	\$14,897	10.3
ECM - 7	Transformer Replacements	78.382	108.959	16.987	697.4	0	697.4	0.0	0.0	\$5,630	\$18,365	\$23,994	\$180,359	7.5
ECM - 8	Automated Meter Reading	331.117	292.445	8.265	2,156.4	1,043	3,199.5	796.0	0.0	\$0	\$58,881	\$58,881	\$489,076	8.3
ECM - 9	Compressed Air System Upgrades	0.000	0.000	58.086	198.2	0	198.2	0.0	0.0	\$982	\$6,488	\$7,470	\$31,466	4.2
ECM - 10	Greenhouse Glass Replacement	0.000	0.000	0.000	0.0	0	0.0	0.0	0.0	\$0	\$0	\$0	\$ -	#DIV/0!
ECM - 11	Solar Water Heating	0.000	0.000	0.000	0.0	0	0.0	0.0	0.0	\$0	\$0	\$0	\$ -	#DIV/0!
ECM - 12	Building 2 Water Conservation	0.000	0.000	0.000	0.0	0	0.0	0.0	0.0	\$0	\$0	\$0	\$400,003	#DIV/0!
Totals		2,309.8	1,251.1	203.7	12,848.8	1,744.9	14,593.7	1,211.0	415.0	\$49,830	\$310,490	\$360,320	\$2,947,204	8.2



# *Thank you!*

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